

in the nest litter were very large, and one of the *Chlorion maxillosum* head capsules is larger than all but one in the collection of some 500 specimens in the British Museum (Natural History).

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## A new subspecies of Masked Owl *Tyto novaehollandiae* (Stephens) from southern New Guinea

by I. J. Mason

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While analyzing subspecific variation in *Tyto novaehollandiae* (Stephens) (Schodde & Mason 1980), it appeared to me that specimens from southern New Guinea (Merauke-Fly River District) were of an undescribed form. Previous authors (Rand 1942, Mayr 1941, Mees 1964, 1982, Rand & Gilliard 1967) seem to have had mixed feelings about the subspecific status of this population, not surprisingly, as the intensity of tones and patterns of plumage in this species varies geographically, in keeping with the different climatic regimes that these owls inhabit (see Schodde & Mason 1980: 70-77). Consequently, plumage characters alone may be somewhat misleading in assessments of the subspecific limits and possible relationships of *Tyto novaehollandiae*.

The scattered northern island populations—*T.n. melvillensis* Mathews (Melville and Bathurst Islands), No. 5 in Fig. 1, *T.n. sorocula* (P. L. Slater) (Tanimbar), No. 7, *T.n. cayelii* (Hartert) (Buru), No. 6, *T.n. manusi* Rothschild & Hartert (Manus), No. 9 and those from southern New Guinea (8)—have the same dark dorsal plumage as each other. Likewise, the general plumage tones and patterns of nominate *novaehollandiae* (2) from eastern and southern Australia are comparable with those birds from southern New Guinea. Interposed between the southern New Guinea and eastern Australia populations, however, is an out-of-sequence light (white) to medium phase form, *T.n. kimberli* (Mathews) (4) from northern Australia, whose characteristics may have been acquired in adaptation to the drier tropical woodlands it inhabits today (Schodde & Mason 1980, Mees 1982).

Other characters, therefore, needed to be evaluated in conjunction with plumage to determine the status of these forms. It was observed that specimens from southern New Guinea exhibited a mixture of pale and dark



Figure 1 Distribution of the races of *Tyto novaehollandiae*.

plumage traits and variable measurements, characters that may have been derived either directly from both southern and northern forms nearby, or independently by convergence (see diagnosis of new subspecies). As it is, one might have expected Masked Owls from southern New Guinea (8) to have characters in common with those of Cape York Peninsula (3) due to their comparable tropical habitat and close proximity, as well as to the past geographical connections between the vertebrate faunas of these 2 land masses (see Schodde & Calaby 1972, Kikkawa *et al.* 1981). It was also to be expected that plumage characters, in the past, might have masked these relationships.

From the current revision it also became apparent that the only similarity between Cape York Peninsula (3) and northwestern Australian populations (4) is in their pale plumage and the reduced feathering on the lower tarsus. The Cape York population is in fact consistently smaller in wing and tail, and proportionally larger in culmen and tarsus (Table 1), so that when its geographical location and similarity to neighbouring (north and west) populations are taken into account these Cape York birds appear to hold

Table 1. Body measurements (mm) of *Tyto novaehollandiae*. Measurements in brackets are means; 3(-2), for example, signifies that there are 3 wing measurements and 2 birds with an incomplete set of body measurements.

Localities	Sample No.	Wing	Tail	Culmen (from cere)	Tarsus	
♀♀						
Melville/Bathurst Is.	3(-2)	295-308(301.3)	130	24	64	
Northern Australia	7	313-332(320.7)	133-144(136.8)	24-26.3(24.9)	67-73.3(70.9)	
Cape York Peninsula	2	299-306(302.5)	126-135(130.5)	23.2-24.4(23.8)	71.5-76(73.8)	
Southern New Guinea	2	317-328(322.5)	127-137(132)	25.5-27.9(26.7)	71.5-74(72.5)	
Southern Queensland	12(-2)	317-339(323.0)	130-145(138.0)	24.0-25.8(24.6)	63.7-69.7(66.4)	
New South Wales	10	328-344(334.1)	138-150(143.4)	24.4-26.1(25.4)	62.4-75.5(68.3)	
Victoria	4(-2)	333-352(342.3)	142-152(145.7)	23.3-25(24.1)		
Tasmania	5	347-368(359.2)	150-172(163.8)	24.8-27.3(25.9)	66-80(76.4)	
♂♂						
Melville/Bathurst Is.	1	280	120	21.3	60	
Northern Australia	4	293-305(299.3)	123-132(128.8)	21.0-24.0(22.7)		
Cape York Peninsula	3(-2)	280-283(281.3)	119	22.5	68.5	
Southern New Guinea	3(-2)	305-308(306.0)	126-127(126.5)	24.0-25.4(24.7)	66-68.5(67.3)	
Southern Queensland	6(-2)	295-308(300.6)	122-128(125.8)	22.7-23.0(22.8)	60.2-62.4(61.2)	
New South Wales	9	285-318(302.6)	121-143(130.4)	21.4-23.8(22.5)	59.9-67(63.7)	
Victoria	1(-1)	308				
Tasmania	10	310-338(328.5)	140-163(148.4)	21.9-24.5(23.2)	64-72(66.4)	
Localities	Tail/Wing	Tarsus/Tail	Tarsus/Wing	Culmen/Tarsus	Culmen/Wing	Culmen/Tail
♀♀						
Melville/Bathurst Is	.44	.49	.22	.38	.08	.18
Northern Australia	.42-.45(.43)	.49-.53(.51)	.21-.23(.22)	.34-.38(.35)	.08	.18-.19(.18)
Cape York Peninsula	.42-.44(.43)	.56-.57(.57)	.24-.25(.25)	.31-.34(.33)	.08	.17-.19(.18)
Southern New Guinea	.40-.42(.41)	.54-.56(.55)	.22-.23(.23)	.36-.38(.37)	.08-.09(.09)	.20
Southern Queensland	.40-.45(.43)	.45-.52(.48)	.20-.21(.21)	.35-.40(.37)	.07-.08(.08)	.17-.19(.18)
New South Wales	.42-.45(.43)	.44-.54(.48)	.19-.23(.21)	.33-.40(.38)	.07-.08(.08)	.17-.19(.18)
Victoria	.43				.07	.15-.18(.17)
Tasmania	.43-.48(.46)	.44-.49(.47)	.19-.22(.21)	.33-.38(.34)	.07-.08(.07)	.15-.17(.16)
♂♂						
Melville/Bathurst Is.	.43	.50	.22	.36	.08	.18
Northern Australia	.41-.45(.43)				.07-.08(.08)	.16-.18(.17)
Cape York Peninsula	.42	.58	.24	.36	.08	.19
Southern New Guinea	.41	.52-.54(.53)	.21-.22(.22)	.35-.38(.37)	.08	.19-.20(.20)
Southern Queensland	.41-.43(.42)	.48-.50(.49)	.19-.21(.20)	.36-.38(.37)	.07-.08(.08)	.18-.19(.18)
New South Wales	.40-.45(.43)	.46-.52(.49)	.20-.23(.21)	.33-.36(.35)	.07-.08(.07)	.16-.18(.17)
Victoria						
Tasmania	.43-.48(.45)	.43-.48(.45)	.19-.22(.20)	.33-.37(.36)	.07	.15-.17(.16)

clues to past links between the populations of Masked Owls within these regions. Because of the above differences the trinomial *T.n. galei* should be reinstated for those populations inhabiting Cape York Peninsula (pace Schodde & Mason 1980: 77).

The origin of the disjunct and isolated island populations of *Tyto novaehollandiae* (*sorocula*, *cayelii* and *manusi* (Fig. 1-7, 6, 9) is still open to speculation (Schodde & Mason 1980). Clues to a possible evolutionary pathway of these forms may lie in the degree of similarity to *melwillensis* (5) and evidence of avifaunal links between the islands which they inhabit, keeping in mind that morphological similarities between these forms may be nothing more than convergence.

It seems reasonable to speculate that *sorocula* may have evolved in isolation from *melwillensis*-like stock, and in turn *cayelii* and *manusi* from *sorocula*,

possibly during the latter half of the Pleistocene, when land masses extended far beyond their present boundaries (Hope & Hope 1976: 30, Kikkawa *et al.* 1981: 1698). The possibility of such a chance transoceanic crossing by *Tyto novaehollandiae* from northern Australia to colonize islands in the Banda Sea by way of the Tanimbar Islands could be considered unrealistic were it not for additional evidence, that other avian species have in the past (e.g. *Cacatua pastinator goffini*, *Geopelia maugesi*) and at the present day do still follow this route (Hartert 1901, Schodde & Mathews 1977), and, accordingly, that considerable avifaunal interchange has taken place in the past between the southern Moluccas (Buru) and the Tanimbar Islands (see Hartert (1901) for similarities between a number of species and subspecies from these islands).

However, *T.n. cayelii* of Buru does show some similarity to *T. inexpectata* of Sulawesi in having the white dorsal spots replaced by brownish ones. Geographical position (see Audley-Charles (1981) for discussion on past land connections between Celebes and Australo-Papua) and morphological similarity of *T. inexpectata* to *T.n. cayelii* suggests that *inexpectata* may have budded off much earlier and speciated from the *T. novaehollandiae* line.

The origin of *manusi* is more difficult to explain but it may have followed a northeasterly route from Buru around northern New Guinea via the Moluccas, to the Admiralty Islands (see Salomonsen (1976: 595-6) for a possible route). Rothschild & Hartert (1914) also suggest that *manusi* is nearest to *cayelii*. *T.n. manusi*, in my opinion, on the other hand, exhibits little or no morphological similarity to *T. aurantia*, from New Britain, although *T. aurantia* presumably originated and diverged from Masked Owl stock (Schodde & Mason 1981: 77).

If *T. novaehollandiae* did follow this suggested evolutionary route, it is possible that there are undiscovered populations on some of the islands around the Moluccas and the Vogelkop. There are a number of publications discussing collections from intervening locations throughout this region without reference to *T. novaehollandiae*, while few specimens of the races discussed above exist in collections. K ln, for example (Hartert 1901), whilst collecting on Timorlaut (Tanimbar Islands), did not procure any specimens of *sorocula*, and the paucity of specimens from islands north of Australia may suggest a number of possibilities, e.g. a lack of systematic collecting of night birds, the inaccessibility of likely locations, that populations of these subspecies may be low in number or that they have a very patchy distribution – or a combination of all these factors.

#### *Tyto novaehollandiae calabyi* subsp. nov.

*Holotype*. (Rijksmuseum van Natuurlijke Historie, Leiden) Reg. No. 42474, Field No. 305, adult ♂, Merauke (southern New Guinea—see Fig. 1), 22 April 1960, coll. A. Hoogerwerf. Measurements (mm) wing 305, tail 130, culmen (from cere) 24.3, tarsus 70.

*Paratypes*. (Rijksmuseum van Natuurlijke Historie, Leiden) Reg. No. 42475, ♀; (American Museum of Natural History) Reg. Nos. 425939, 425940—♂ and ♀ respectively.

*Series studied*. 2 ♂♂, 2 ♀♀; ♂, ♀ immatures.

*Range*. *T.n. calabyi* inhabits southern New Guinea, in the eucalypt savannahs between Merauke and the Fly River Delta (Fig. 1).

*Diagnosis*. *T.n. calabyi* differs from tropical island populations (*melwillensis*,

*cayelii*, *sorocula* and *manusi*) in its large size and its coarser spotting and speckling of the dorsal surface. It is distinguished from *galei* by its darker dusky and tawny, and less coarsely mottled, dorsal plumage (Plate 2), and larger size (Table 1).

Although *calabyi* of southern New Guinea is said not to differ from *novaehollandiae* (Mees 1964, 1982), *calabyi* can be distinguished by its consistently darker dorsal plumage (4 adults, 2 immatures) when compared with 7 medium and 4 dark phase birds from the northern limits of *novaehollandiae*'s range. To date there are no dark phase birds with an extensive russet wash to the dorsal surface recorded from southern New Guinea. Moreover, in differing from *novaehollandiae*, *calabyi* exhibits a number of characters similar to *galei*: pale feather pattern to the lesser wing coverts, secondary and primary flight feathers (contrasting with the rest of the dark dorsal plumage), lack of feathering and hair to the lower portion of the tarsus and toes, and proportionally larger tarsi and smaller tails (Table 1). Although New Guinean birds are as large as nominate *novaehollandiae*, they differ in their larger culmen and tarsus and their appendage ratios (Table 1).

*Etymology.* This subspecies is named after Dr. John H. Calaby in acknowledgment of his support and encouragement to my work over the years and because of his deep past interest in this species.

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## The nomenclature of *Buteo oreophilus*

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In 1914, Hartert & Neumann described a species of buzzard from Koritscha, Ethiopia, under the name *Buteo oreophilus*, giving as the range of this species the mountain areas of central, northeast, and east Africa. Sclater (1919) was the first to suggest that the resident buzzards of southern Africa might also belong to the same species (see also Roberts 1940, Courtenay-Latimer 1941). It was not until 1957 that Rudebeck formally described and named the South African segment of this resident buzzard as *Buteo buteo trizonatus*, type locality Knysna, Cape Province. Hesitantly, he followed Meinertzhagen (1951) in considering both *oreophilus* and *trizonatus* as conspecific with the Eurasian *Buteo buteo*. Since then the taxonomic affinity of these forms has been examined by many authors, resulting in widely varying conclusions. A. H. J. intends to discuss the taxonomy of the group (James in prep.), but before doing so there is a need to clear up the nomenclatural confusion that has arisen recently from Brooke's (1974) conclusion that in his opinion Rudebeck (1957) was not the first author to describe the South African form of *Buteo*.

In 1830, Andrew Smith started publication of a series of papers in the South African Quarterly Journal, which he apparently intended should form a kind of catalogue of South African birds. In trying to identify these birds he referred to Levaillant's *Histoire Naturelle des Oiseaux d'Afrique* (1799-1808) and to Daudin's *Traité élémentaire et complet d'ornithologie* (1800). The latter work gave binominal scientific names. After citing these, Smith gave careful descriptions of the material he had at hand. At the time these were not meant to constitute descriptions of new species (Mees 1967, Clancey *et al.* 1971), but they were later considered as such by him and also by other authors.

Among the species of *Buteo* found in South Africa, Smith (1830) listed *Buteo tachardus* (*Falco tachardus* Daudin, 1800) and *Buteo desertorum* (*Falco desertorum* Daudin, 1800). *Falco tachardus* Daudin is based upon Le Tachard as depicted on Plate 19 in Levaillant (published in 1799), and *Falco desertorum* Daudin on Le Rougri (Plate 17 in Levaillant 1799). Both names, and particularly *F. desertorum* have later been applied to *Buteo buteo vulpinus* Gloger, 1833, a migrant to South Africa. However, Hartert (1914:1125) was of the opinion that Le Rougri is unidentifiable [. . . Figment of fantasy! The fox-red upperparts, the description of the underparts, the beautiful yellow bill, especially mentioned in the description, void the use of the name *desertorum*. On top of all this, the miraculous animal should be resident in South Africa and breed there]; and that Le Tachard refers to *Pernis apivorus* (Linnaeus,